

United States Marine Corps
Command and Staff College
Marine Corps University
2076 South Street
Marine Corps Combat Development Command
Quantico, Virginia 22134-5068

MASTER OF MILITARY STUDIES

**TITLE: STRATEGIC AIR ATTACK IN MILITARY OPERATIONS
OTHER THAN WAR STRIKES AND RAIDS**

**SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MILITARY STUDIES**

AUTHOR: MAJOR PHILLIP R. PRATZNER, JR.

AY 00-01

Mentor: **Dr. Mark H. Jacobsen**

Approved: _____

Date: _____

Report Documentation Page

Report Date 10 May 2001	Report Type N/A	Dates Covered (from... to) -
Title and Subtitle Strategic Air Attack in Military Operations Other Than War Strikes and Raids		Contract Number
		Grant Number
		Program Element Number
Author(s)	Project Number	
	Task Number	
	Work Unit Number	
Performing Organization Name(s) and Address(es) Joint Military Operations Department Navy War College 686 Cushing Road Newport, RI 02841-1207		Performing Organization Report Number
Sponsoring/Monitoring Agency Name(s) and Address(es)		Sponsor/Monitor's Acronym(s)
		Sponsor/Monitor's Report Number(s)
Distribution/Availability Statement Approved for public release, distribution unlimited		
Supplementary Notes		
Abstract The Central issue of this paper is Strategic Air Attack in Military Operations Other Than War (MOOTW) strikes and raids, against Terrorism and Weapons of Mass Destruction (WMD) threats, to date, Strategic Air Attack has seldom been used outside of war, but the Twin Threats of Terrorism and WMD have created entirely new challenges for the United States, and Strategic Air Attack represents an important tool against these challenges. Strategic Air Attack has been used before in MOOTW in operational El Dorado Canyon and Operation Babylon. Operation El Dorado Canyon represents a responsive action against Terrorism, while operation Babylon represents a preemptive action against a WMD capability. This paper analyzes both of these operations to capture the circumstances and conditions where strategic air attack in MOOTW has succeeded. This paper also discusses the use of Force in General, along with theory behind Strategic Air Attack, to provide some required background. It therefore combines theory (Use of Force, Strategic Attack in General) and experience (Operations El Dorado Canyon and Babylon) to arrive at the conclusions and recommendations. Fundamentally, the United States must be prepared to act, both in a responsive way, and a preemptive way, against the threats of WMD and Terrorism. Strategic Air Attack, in the form of a MOOTW Raid or Strike, can be one of the instruments of choice.		
Subject Terms		

Report Classification unclassified	Classification of this page unclassified
Classification of Abstract unclassified	Limitation of Abstract UU
Number of Pages 65	

REPORT DOCUMENTATION PAGE		FORM APPROVED - - - OMB NO. 0704-0188
<small>public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters services, directorate for information operations and reports, 1215 Jefferson davis highway, suite 1204, Arlington, VA 22202-4302, and to the office of management and budget, paperwork reduction project (0704-0188) Washington, dc 20503</small>		
1. AGENCY USE ONLY (LEAVE BLANK)	2. REPORT DATE 10 MAY 2001	3. REPORT TYPE AND DATES COVERED STUDENT RESEARCH PAPER
4. TITLE AND SUBTITLE STRATEGIC AIR ATTACK IN MILITARY OPERATIONS OTHER THAN WAR STRIKES AND RAIDS		5. FUNDING NUMBERS N/A
6. AUTHOR(S) MAJOR PHILLIP R. PRATZNER, JR. UNITED STATES AIR FORCE		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) USMC COMMAND AND STAFF COLLEGE 2076 SOUTH STREET, MCCDC QUANTICO, VA 22134-5068		8. PERFORMING ORGANIZATION REPORT NUMBER NONE
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) SAME AS #7.		10. SPONSORING/MONITORING AGENCY REPORT NUMBER: NONE
11. SUPPLEMENTARY NOTES NONE		
12A. DISTRIBUTION/AVAILABILITY STATEMENT NO RESTRICTIONS		12B. DISTRIBUTION CODE N/A
<p>ABSTRACT (MAXIMUM 200 WORDS) THE CENTRAL ISSUE OF THIS PAPER IS STRATEGIC AIR ATTACK IN MILITARY OPERATIONS OTHER THAN WAR (MOOTW) STRIKES AND RAIDS, AGAINST TERRORISM AND WEAPONS OF MASS DESTRUCTION (WMD) THREATS. TO DATE, STRATEGIC AIR ATTACK HAS SELDOM BEEN USED OUTSIDE OF WAR, BUT THE TWIN THREATS OF TERRORISM AND WMD HAVE CREATED ENTIRELY NEW CHALLENGES FOR THE UNITED STATES, AND STRATEGIC AIR ATTACK REPRESENTS AN IMPORTANT TOOL AGAINST THESE CHALLENGES.</p> <p>STRATEGIC AIR ATTACK HAS BEEN USED BEFORE IN MOOTW IN OPERATION EL DORADO CANYON AND OPERATION BABYLON. OPERATION EL DORADO CANYON REPRESENTS A RESONSIVE ACTION AGAINST TERRORISM, WHILE OPERATION BABYLON REPRESENTS A PREEMPTIVE ACTION AGAINST A WMD CAPABILITY. THIS PAPER ANALYZES BOTH OF THESE OPERATIONS TO CAPTURE THE CIRCUMSTANCES AND CONDITIONS WHERE STRATEGIC AIR ATTACK IN MOOTW HAS SUCCEEDED.</p> <p>THIS PAPER ALSO DISCUSSES THE USE OF FORCE IN GENERAL, ALONG WITH THEORY BEHIND STRATEGIC AIR ATTACK, TO PROVIDE SOME REQUIRED BACKGROUND. IT THEREFORE COMBINES THEORY (USE OF FORCE, STRATEGIC ATTACK IN GENERAL) AND EXPERIENCE (OPERATIONS EL DORADO CANYON AND BABYLON) TO ARRIVE AT THE CONCLUSIONS AND RECOMMENDATIONS. FUNDAMENTALLY, THE UNITED STATES MUST BE PREPARED TO ACT, BOTH IN A RESPONSIVE WAY, AND A PREEMPTIVE WAY, AGAINST THE THREATS OF WMD AND TERRORISM. STRATEGIC AIR ATTACK, IN THE FORM OF A MOOTW RAID OR STRIKE, CAN BE ONE OF THE INSTRUMENTS OF CHOICE.</p>		
14. SUBJECT TERMS (KEY WORDS ON WHICH TO PERFORM SEARCH) STRATEGIC AIR ATTACK, WEAPONS OF MASS DESTRUCTION, TERRORISM		15. NUMBER OF PAGES: 49
		16. PRICE CODE: N/A

17. SECURITY CLASSIFICATION OF REPORT <i>UNCLASSIFIED</i>	18. SECURITY CLASSIFICATION OF THIS PAGE: <i>UNCLASSIFIED</i>	19. SECURITY CLASSIFICATION OF ABSTRACT <i>UNCLASSIFIED</i>	20. LIMITATION OF ABSTRACT
--	--	--	----------------------------

Mentor: **Prof Eugene H. Grayson**

Approved: _____

Date: _____

DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

QUOTATION FROM, ABSTRACTION FROM, OR REPRODUCTION OF ALL OR ANY PART OF THIS DOCUMENT IS PERMITTED PROVIDED PROPER ACKNOWLEDGEMENT IS MADE.

Illustrations

Page

Figure 1. Warden's Strategic Rings Model.....	35
---	----

Tables

Page

Table 1. Platforms and Weapons from each Service used in.....	5
Strategic Air Attack	

Table of Contents

	<i>Page</i>
DISCLAIMER.....	i
ILLUSTRATIONS.....	ii
TABLES.....	iii
TABLE OF CONTENTS.....	iv
PREFACE.....	v
INTRODUCTION.....	1
DEFINING THE CONCEPTS.....	4
Strategic Air Attack.....	4
Strikes and Raids in MOOTW.....	7
ASSUMPTIONS.....	9
THE USE OF FORCE AND THE EFFICACY OF AIRPOWER.....	12
AS A NATIONAL INSTRUMENT OF FORCE	
OPERATION EL DORADO CANYON.....	18
OPERATION BABYLON.....	28
THE THEORY BEHIND STRATEGIC ATTACK.....	32
CONCLUSION.....	44
RECOMMENDATIONS.....	47
BIBLIOGRAPHY.....	Annex

Preface

The central issue of my paper is Strategic Air Attack in Military Operations Other than War (MOOTW) strikes and raids, against terrorism and weapons of mass destruction (WMD) threats. In reviewing the strategic conceptual literature of today, to include official joint literature, it is readily apparent to me that WMD and terrorism are high national security priorities. To date, Strategic Air Attack has seldom been used outside of war. I submit however, that the twin threats of WMD and terrorism have created entirely new challenges for the United States, and Strategic Air Attack represents an important tool against these challenges.

Strategic Air Attack has been used before in MOOTW in Operations El Dorado Canyon and Operation Babylon. Operation El Dorado Canyon represents a *responsive* action against terrorism, while Operation Babylon represents a *preemptive* action against a WMD capability. I analyze both of these operations to capture the circumstances and conditions where Strategic Air Attack in MOOTW has succeeded.

I also discuss the use of force in general, along with theory behind Strategic Air Attack, to provide some required background. In essence, I combine theory (use of force, Strategic Attack in general) and experience (Operations El Dorado Canyon and Babylon) to arrive at my conclusions and recommendations. I am convinced, from my research, that the United States must be prepared to act, both in a responsive way, and a preemptive way, against the threats of WMD and terrorism. I am just as convinced that Strategic Air Attack, in the form of a MOOTW raid or strike, can be one of the instruments of choice.

INTRODUCTION

Envision this frightening, but fictional, scenario. On a Saturday night in Times Square in New York City, while thousands of people mingle or transit the area, a weapon detonates. The weapon spreads sarin gas and thousands of these people die within minutes. At the time of the explosion, no one in the United States is aware that the bomb was delivered by a terrorist, sponsored by Country X, whose leader vowed to reap “death upon the American infidels.” While this scenario reads like a passage out of a Tom Clancy novel, the possibility of it being in tomorrow’s headlines is very real. In today’s world, any number of countries could be Country X. Regardless of the country’s identity, if this scenario were to occur, it would lead to an inevitable result: once it identified the sponsoring state, the United States would attack the culprit in reprisal.

Since the end of World War II, the United States has frequently turned to the use of military force to achieve national political objectives. The events which have necessitated the United States (US) to use force have ranged from major theater wars to peacekeeping operations, and everything in between, to include terrorism against US citizens. Contrary to optimistic predictions, the end of the Cold War has not meant the end of military force; rather, the US has used force in a wide range of scenarios, and this trend has shaped the military of tomorrow. The National Military Strategy of the US very clearly spells this out: “Future challenges to our interests will likely require use of our forces in a wide range of concurrent operations short of major theater war.”¹ As the plausible scenario above indicates, two of these

¹ Joint Chiefs of Staff, *National Military Strategy of the United States of America*, n.p., 1997: 16.

future challenges include terrorism and weapons of mass destruction (WMD).

Terrorism, WMD, or combinations of them are some of the most onerous challenges the US will face both in the future and present. The *Concept for Future Joint Operations* (CFJO) prominently cites this danger:

Despite arms control, the proliferation of both conventional weapons and weapons of mass destruction (WMD) will continue. The number of nuclear-capable states will likely expand. Some will attempt to acquire or create both conventional and unconventional WMD delivery systems. The possibility that nuclear, biological, and chemical weapons could fall into the hands of non-state groups will increase.²

While we grimace at the thought that the US may be attacked by these weapons, the US faces the very real necessity of developing a strategy in response to them. This means not only designing a defense but also an offense, poised to strike an offender who threatens their use or dare we think, has already used them. Many of the current strategies employed in Military Operations Other than War (MOOTW), such as peacekeeping “boots on the ground” operations, simply will not suffice in this scenario. One possible solution is the employment of Strategic Air Attack, long thought as an instrument for war.

While there are many military instruments available to them, US decision-makers have rarely used Strategic Air Attack to achieve their objectives in Military Operations Other than War (MOOTW). Perhaps this is because Strategic Air Attack has been considered too “heavy handed,” and incapable of providing the right method to obtain national political objectives. The threat of WMD incidents, however, has changed this fundamental equation. Additionally,

² Joint Warfighting Center, *Concept for Future Joint Operations: Expanding Joint Vision 2010* (Fort Monroe, VA: Joint Warfighting Center, May 1997), 9.

Strategic Air Attack plays a potential role in the response to terrorism. Some states will rely on terrorism as an asymmetric capability, serving as a substitute for large conventional forces.³

Strategic Air Attack was in fact employed against terrorism in Operation El Dorado Canyon, commonly referred to as the Libyan Raid of 1986. In a different manner, it was also employed by the Israeli Air Force in Operation Babylon, the attack against Iraq's nuclear capabilities in 1981.

Although there are differing views on the ultimate results of Operation El Dorado Canyon and Operation Babylon, many perceived these attacks to be great successes. Can the success of these operations be duplicated in other scenarios, particularly those with WMD and terrorism implications? That question is the basis of this paper. Specifically, the focus in this paper is to analyze the circumstances and conditions in which the US can successfully conduct Strategic Air Attack to fulfill national objectives in **very specific** MOOTW scenarios, specifically strikes and raids against states which threaten (preemptive action) or have already used (responsive action) WMD and/or terrorism.

Without question, Strategic Air Attack is not a solution to nearly all other MOOTW situations. For example, Strategic Air Attack would be both inappropriate and ineffective in peacekeeping missions. The intent of this paper, therefore, is not to extrapolate that the two case studies, Operations El Dorado and Babylon, provide evidence that Strategic Air Attack would work in other MOOTW scenarios. Rather, this paper narrowly focuses on these case studies in order to develop conclusions on the effectiveness of strikes and raids in WMD and

³ Joint Chiefs of Staff, *Concept for Future Joint Operations: Expanding Joint Vision 2010* (Joint Warfighting Center: Fort Monroe, VA: May 1997), 10.

terrorism scenarios.

In order to answer the central question, six areas will be examined: (1) basic definitions of Strategic Air Attack, the MOOTW concept, and strikes and raids; (2) assumptions; (3) exploration of the use of force concept and the efficacy of airpower as a national instrument of power; (4) discussion of Operation El Dorado Canyon; (5) examination of Operation Babylon; and (6) the theory behind Strategic Air Attack in a strike or raid mission. The conclusion follows this analysis and develops a concept of Strategic Air Attack in a MOOTW strike or raid. This paper ends with four basic recommendations on Strategic Air Attack in the WMD and terrorism scenarios.

Before proceeding, one very significant point should be brought to light. For the purposes of this paper, only the use of Strategic Air Attack against *nation states* will be examined, rather than non-state entities. Certainly, much of what is covered here can apply to these non-state entities. Terrorist groups, factions and the like are certainly as prevalent now as ever, and these groups can and have committed heinous crimes against the US. However, the nation state is the point of focus in order to simplify the rather complex task of addressing all the components which must be considered for Strategic Air Attack. A good place to start is defining and explaining the operative concepts.

DEFINING THE CONCEPTS

Strategic Air Attack

Air Force Doctrine Document (AFDD) 1 defines Strategic Attack in the following way:
“Military action carried out against an enemy’s center(s) of gravity or other vital target sets,

including command elements, war-production assets, and key supporting infrastructure in order to effect a level of destruction and disintegration of the enemy’s military capability to the point **where the enemy no longer retains the ability or will to wage war or carry out aggressive activity.**”⁴ AFDD 1 further states that Strategic Attack “is a function of objectives or effects achieved, not forces employed.”⁵

With the definition above, one other element needs to be added to the Strategic **Air** Attack concept: the “Air” part. By “Air”, this is referring to both “air breathing” platforms dropping weapons, as well as stand-off weapon systems organic to all US military services. The following table illustrates potential platforms and weapons from each service which could be employed in Strategic Air Attack.

SERVICE	PLATFORM	STAND-OFF WEAPON
USAF	F-117	Conventional Air Launched Cruise Missile (CALCM) from B-52
USN	F-14	Tomahawk Cruise Missile from Aegis Cruiser
USA	Apache Helicopter	Army Tactical Missile System (ATACMs)
USMC	F-18	Standoff Land Attack Missile (SLAM) from F-18

Table 1: Platforms and Weapons from each Service used in Strategic Air Attack

While Strategic Air Attack has seldom been employed in MOOTW, it has been

⁴ Headquarters Air Force Doctrine Center, *Air Force Doctrine Document 1 (AFDD 1): Air Force Basic Doctrine* (Maxwell Air Force Base, AL: 1997), 51.

⁵ Ibid, 52.

liberally applied in major theater wars with great effect. In fact, the impact of Strategic Air Attack in major theater wars can hardly be disputed. Even in its early years during World War II with limited technology, Strategic Air Attack showed great promise. In Europe, “. . . strategic bombing did make a substantial contribution to allied victory.”⁶ The effect in Japan was perhaps even greater, where “bombing did at length undermine the enemy’s will to continue the war. . .”⁷ While it was clear Strategic Air Attack did not by itself win the war in either theater, it was readily apparent that by the end of World War II it could be decisive in future campaigns. What was lacking was the technology to make it so.

Part of that technology was the introduction of low observability to enemy radar and infrared sensors, more commonly known as “stealth.”⁸ Mr. Benjamin Lambeth from the Rand Corporation, distinguished author of many air power books and articles, advocates that stealth is the most important advance in recent military aviation technology:

As incorporated in the F-117, it proved decisive in the early suppression of Iraqi air defenses that led to the prompt establishment of allied air control in ‘Desert Storm’. It is the dominant characteristic as well of the USAF’s new B-2 bomber which attained initial operational capability in 1997 and which made its combat debut in NATO’s Operation ‘Allied Force’ against Yugoslavia in 1999. And it will be the principal distinguishing feature of the F-22 air dominance fighter and tri-service Joint Strike Fighter now expected to come on line during the first two decades of the twenty-first century . . . stealth has increased the likelihood of unobserved and unmolested penetration to target . . . it has obviated the need to amass large force packages for most applications of

⁶ John Pimlot, *Strategic Bombing* (London, England: Bison Books, Ltd, 1990), 48.

⁷ Pimlot, 62.

⁸ Benjamin S. Lambeth, “Air Power, Space Power and Geography,” *The Journal of Strategic Studies* (Santa Monica, CA: Rand Corporation, 1999), 70.

air power.⁹

The second part of this technology came with the advent and maturation of Precision Guided Munitions (PGMs). These very accurate weapons finally enabled US forces to attack, with precision, important targets and destroy them with relative ease. Now a refinery or power generation facility or above ground command post was vulnerable to neutralization. During the 1991 Gulf War, Iraq saw many of these types of facilities destroyed within hours of the beginning of the conflict. US and allied airpower would continue to attack these facilities throughout the conflict. General H. Norman Schwarzkopf, the Commander-in-Chief (CINC) of Central Command during the conflict, stated that “Air Force precision munitions . . . were so vastly superior to anything we had before, and to anything our enemies have now.”¹⁰ In the end, whereas PGMs, along with stealth, would not necessarily bring an end to the conflict, it meant that Strategic Air Attack was without doubt **decisive** and it shaped the conflict as never seen before:

“ . . . air power can make its presence felt quickly and can impose effects from the outset of combat that can have a governing influence on the subsequent course and outcome of a joint campaign.”¹¹

Strikes and Raids in MOOTW

The question therefore arises whether Strategic Air Attack can have this same effect in a

⁹ Lambeth, 70-71.

¹⁰ H. Norman Schwarzkopf, *It Doesn't Take a Hero* (New York, NY: Bantam Books, 1992), 501.

¹¹ Lambeth, 72.

strike or raid MOOTW operation. First, however, we must understand what is specifically meant by MOOTW, so we start with a Joint Doctrine definition: “Operations that encompass the use of military capabilities **across the range of military operations short of war** [emphasis added]. These military actions can be applied to complement any combination of the other instruments of national power and occur before, during, and after war.”¹² Additional Joint Doctrine declares that MOOTW which involves the use of force, may be required to “demonstrate US resolve and capability, support the other instruments of national power, or terminate the situation on favorable terms. The general goals of US military operations during such periods are to support national objectives, deter war, and return to a state of peace.”¹³

Strikes and raids are just one type of MOOTW mission. Strikes are defined as **“offensive operations conducted to inflict damage on, seize, or destroy an objective for political purposes.** Strikes may be used for punishing offending nations or groups, upholding international law, or preventing those nations or groups from launching their own offensive actions.”¹⁴ A raid only differs in scale, since it is **“usually a small-scale operation** involving swift penetration of hostile territory to secure information, confuse the enemy, or destroy installations. It ends with a planned withdrawal upon completion of the assigned mission.”

While most Strategic Air Attacks against WMD and/or terrorism will involve a raid, there could

¹² Joint Chiefs of Staff, Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: GPO, 23 March 1994), under the phrase “Military Operations Other than War.”

¹³ Joint Chiefs of Staff, Joint Pub 3-0, *Doctrine for Joint Operations* (Washington, DC: GPO, 1 February 1995), vii-viii.

¹⁴ Joint Chiefs of Staff, Joint Pub 3-07, *Joint Doctrine for Military Operations Other than War* (Washington, DC: GPO, 16 June 1995), III-15.

be scenarios where the operation is both large and enduring enough, perhaps over several days, that it could logically be called a strike.

To complete the full concept of strikes and raids in MOOTW, it is important to understand that they must adhere to **some** of the principles behind MOOTW. They could not possibly adhere to all, especially as viewed through the spectrum of Strategic Air Attack. As constructed in this paper, the nature of Strategic Air Attack as a strike or raid against WMD or terrorism is quick and violent, and may not have allied support. Whereas all MOOTW principles are spelled out below, only those which will be examined later, and which apply to Strategic Air Attack strikes and raids, are annotated with a star:

***Objective:** Direct every military operation toward a clearly defined, decisive, and attainable objective.

Unity of Effort: Seek unity of effort in every operation.

Security: Never permit hostile factions to acquire an unexpected advantage.

***Restraint:** Apply appropriate military capability prudently.

Perseverance: Prepare for the measured, protracted application of military capability in support of strategic aims.

***Legitimacy:** Sustain the willing acceptance by the people of the right of the government to govern or of a group or agency to make and carry out decisions.¹⁵

¹⁵ Joint Pub 3-0, V-2 - V-4.

ASSUMPTIONS

Three assumptions steer the analysis of this paper. **First, the US has the technological capability to strike precision targets.** Air strikes have been particularly lethal since the Gulf war. During the 1995 Balkan Operation Deliberate Force, former Deputy Defense Secretary John White proclaimed that air strikes were so precise “that to assess damage, the Air Force has gone beyond looking at targets and is looking at aimpoints *within* targets.”¹⁶ While the PGMs of the 1970s made this possible under good weather conditions, the Joint Direct Attack Munition (JDAM) of the late 1990s put targets at-risk under **any** weather condition. The B-2 bomber dropped JDAMs, with great affect, in Kosovo and Serbia during Operation Allied Force in March 1999. All told, the B-2 flew 49 sorties in the 78 day campaign, delivering 650 JDAMs with an excellent, all-weather accuracy rate.¹⁷ Adding the JDAM to the US’s already potent inventory enables the following assertion: every above ground, unhardened target on the face of the earth is susceptible to destruction by airpower.

The second assumption is that **US cannot at this time put deeply buried facilities at-risk.** The GBU-28, the 5,000 lb laser guided bomb which is best penetrator currently in the inventory, is only capable of penetrating over 100 feet of earth and 20 feet of reinforced concrete.¹⁸ While this capability puts almost all above ground targets at-risk, almost any

¹⁶ William Matthews, “Accuracy is ‘Phenomenal’ - Recent Air Strikes set a Standard,” Air Force Times, October 2, 1995, as quoted in DFI International, *A 21st Century Air Force: US Global Engagement and the Use of Air and Space Power* (Washington, DC, July 1997), 27.

¹⁷ Brig Gen Leroy Barnidge, 509th Bomb Wing Commander, Aerospace Education Foundation Colloquium on NATO Air Operations in Kosovo, July 1, 1999. Quoted from Rebecca Grant, *The Kosovo Campaign: Aerospace Power Made it Work* (Arlington, VA: Air Force Association, September 1999), 19.

¹⁸ *US Air Force: Air Power Directory*, ed. David Donald (London: Aerospace Publishing Ltd, 1992), 135.

belligerent can dig far enough into the earth to protect his vital installations from this weapon. The drawback to him is that this effort can be both time consuming and expensive, depending upon the topography of the area. Further, he is almost always forced to put some support functions on the surface: this may include power facilities, communications facilities, and heating, ventilation, and air conditioning (HVAC) facilities. The fact remains however, that while the US does have some capability to **disrupt** enemy operations at these facilities, it cannot totally deny them with air attack. **This is a highly relevant and important limiting factor of Strategic Air Attack.**

The third and last assumption is that **every target cannot be successfully identified**. The function of identifying targets and determining their exact function, especially in a complex target system such as communications, is an art rather than a science. The noted airpower theorist, formerly from the School of Advanced Airpower Studies, USAF Colonel Philip Meilinger sums up this dilemma: “The situation has become even more complex with the introduction of a host of “new targets“ critical to the functioning of a modern state: fiber-optic networks, communication satellites, nuclear power plants, and the new electronic medium often referred to as “cyberspace,” which plays an increasingly important role in all aspects of personal and professional life. How is the modern airman to sort it all out?”¹⁹ Whereas he precisely identifies the dilemma, Meilinger offers few concrete solutions other than targeting military capability; again, this is an art, as well as a daunting challenge.

¹⁹ Meilinger, Philip S., “Targeting for Effect,” *Aerospace Power Journal* (Maxwell Air Force Base, AL: Airpower Research Institute, Winter 1999), 50.

All of these assumptions, combined together, reveal that if the US chooses to conduct Strategic Air Attack in any MOOTW scenario, decisionmakers must understand both the capabilities of the platforms and weapons as well as their limitations. Above ground, unhardened targets can be neutralized, but there may be uncertainty as to what function the target plays in a system. If the target is deeply buried but there is great certainty that it is a critical center of gravity to a belligerent regime, planners may have to choose another target or targets whose neutralization can have the same impact. In other words, almost all situations involve a tradeoff: it can logically assumed that no nation-state will make it easy for the US to attack it. **Very simply, there are few easy tasks associated with Strategic Air Attack.**

The Use of Force and the Efficacy of Airpower as a National Instrument of Power

If the actual execution of Strategic Air Attack is so difficult (and risky), as indicated in the Assumptions section, why do it? The answer lies in the understanding of the role of force in general and specifically in the role of airpower as a tool for the decisionmaker. This section relies a great deal on Barry M. Blechman and Stephen S. Kaplan's authoritative book, *Force Without War*. In this seminal work, Blechman and Kaplan identify the special role of force in American international politics since the end of World War II: "Faced with untoward developments, U.S. policymakers have often turned to the military to reinforce diplomacy and other means of achieving foreign policy objectives."²⁰

Blechman and Kaplan define the concept of 'force without war' in the following way:

"A political use of the armed forces occurs when physical actions are taken by one or more

²⁰ Barry M. Blechman and Stephen S. Kaplan with others, *Force Without War*, (Washington, D.C.: The Brookings Institution, 1978), ix.

components of the uniformed services as part of a deliberate attempt by the national authorities to influence, or to be prepared to influence, specific behavior of individuals in another nation without engaging in a continuing contest of violence.’²¹ Using this definition, Blechman and Kaplan identified 215 incidents in which the United States employed its armed forces for political purposes between 1946 and 1975.²² In an update to this book, Philip D. Zelikow identified an additional 44 incidents between 1975 and 1982.²³

So why have US decisionmakers turned to force so often as a national instrument of power? Fundamentally, because it has often yielded positive results: “U.S. political-military operations. . . have been generally successful in stabilizing situations so as to gain time for other forms of diplomacy to achieve lasting solutions.”²⁴ In discussing this supposition, Blechman and Kaplan cite three conclusions, and Zelikow adds a fourth, which directly support the unique role of airpower in force without war.

First, the issue of time is critical. The “success rate” of the US in a large proportion of the incidents eroded sharply over time; the discrete uses of military force primarily serve as a way of “buying time.”²⁵ Given this dilemma, military force must be utilized quickly; there is no

²¹ Ibid, 12.

²² Ibid, 23.

²³ Philip D. Zelikow, “Force Without War, 1975-82,” *The Journal of Strategic Studies* (Vol 7, March 1984), 31.

²⁴ Foreword from Bruce K. MacLaury, *Force Without War*, x.

²⁵ Blechman and Kaplan, 517.

faster way for military force to be applied than through airpower.

One the most compelling attributes of airpower is speed. Meilinger explains this attribute: “Air power increases speed of movement by orders of magnitude. Aircraft routinely travel several hundred miles into enemy territory at speeds in excess of seven hundred miles per hour. Such mobility means a commander can move so rapidly in so many different directions, regardless of surface obstacles, that a defender is at a severe disadvantage.”²⁶ Not every situation calls for an airpower solution, since “boots on the ground” may be both the appropriate and best way to fulfill the national political objectives in a given MOOTW scenario, and this includes even some WMD and terrorism scenarios. However, it may be possible to conclude that if military force applied in MOOTW has a definitive time element, airpower may be a way of averting a time crisis.

The utilization of airpower also fits into a second Blechman and Kaplan conclusion, the attribute of dissuasion: “. . . a discrete demonstration of U.S. military capability can have a stabilizing and otherwise beneficial effect, perhaps persuading the target that the course of wisdom is alter the undesirable policy.”²⁷ The lethality of airpower can accomplish this by delivering “highly accurate weapons against the most critical and parallel enemy target sets in a rapid or near-simultaneous time frame”, resulting in a “state change” in the ability of the enemy to adapt to the attack.²⁸ The emphasis here is on **discrete**, a quality that airpower can deliver

²⁶ Philip S. Meilinger, *10 Propositions Regarding Air Power* (Air Force History and Museums Program, 1995), 31.

²⁷ Blechman and Kaplan, 519.

²⁸ Christopher G. Warner, *Implementing Joint Vision 2010: A Revolution in Military Affairs for Strategic*

because of the US's PGM capability. This not only assures the target country that we do not threaten total destruction but also assures the world community that we will only do what is necessary to protect American interests. Third parties could be a factor in this scenario by persuading a belligerent state that an American attack (or further attacks) would be even more disabling and that a change in behavior is necessary for them to remain politically and economically viable.

While this second conclusion involves the target state and in the world community at large, the third conclusion covered here involves domestic pressures. Blechman and Kaplan state that "Military demonstrations also can ease domestic political pressure on the President from groups demanding more forceful action."²⁹ This is not a trivial matter: one can only speculate on the pressure put on the President if the US should could under a massive WMD or terrorist attack. What would the American public demand if a state sponsored terrorist exploded a chemical weapon in Times Square in New York city, killing thousands? The battle cry could be nothing short of total war and annihilation of the sponsoring state. However, if the US were to strike quickly, decisively, and potently with airpower, the public may be satisfied and the risk of a broader war minimized.

One element of this domestic pressure issue worth mentioning here is the willingness of the American public to accept casualties. Contrary to popular myth, the American public is not an irrational mass calling for immediate withdrawal from military operations upon the first news

Air Campaigns (Maxwell Air Force Base, AL: Air University Press, April 1999), 9.

²⁹ Blechman and Kaplan, 521.

reports showing American deaths:

Instead, the public weighs the expected and actual costs with the benefits and prospects for success and makes a decision with the aid of cues from political leaders. Public support is not all encompassing, but can be counted on when civilian leadership adequately frames the debate in terms of a positive ends-and-means calculation. The conventional wisdom that the public is casualty-averse is wrong, but civilian policymakers and military elites still act on the mistaken assumption that the public will no longer accept the risks of military action.³⁰

In attempting to avert public pressure towards war, decisionmakers must understand that the public is much more willing to accept casualties than is commonly thought. Vietnam has not left an indelible scar on the American psyche. If the cause is just, Americans will support strong military action. Strategic Air Attack can thus be both the outlet and the restraint: it can show that the US means business, serve as reprisal in kind instrument, and also avoid entanglement leading to massive casualties and an ongoing unwanted commitment of US troops overseas.

The fourth conclusion on the use of force, this one added by Zelikow, is that “past efforts to use force were often (20 percent of the objectives) aimed, without great success, at influencing third parties to curtail or withhold support from nations or groups hostile to US interest.”³¹ The point here is that both currently and in the past, direct actions are more likely to be effective than those aimed indirectly at another target; at best, the affect is unpredictable.³²

³⁰ Charles K. Hyde, “Casualty Aversion: Implications for Policymakers and Senior Military Officers,” *Chairman of Joint Chiefs of Staff Strategy Essay Competition: Essays 2000* (Washington, DC: National Defense University Press, 2000), 14-15.

³¹ Zelikow, 46.

³² Ibid, 46.

Yet, this is one lesson the US seems to learn over and over again. For example, as the recent 1998 air strikes (Operation Desert Fox) against Iraq demonstrate, the US can rarely depend on unanimous world or even regional support on action it deems in the national (and world) interest.

The practical implication of this dilemma is that US forces can rarely depend on external support, to include forward basing, for their military, to include air, operations. “Boots on the ground” will not always be welcomed but neither will “tires on the tarmac.” Still, Airpower offers the distinct advantage of being able to apply military force, from a distance, without being tied to the ground. Further, even if overflight is necessary, it is only a matter of hours and perhaps even minutes, that a third country has to “host” US forces. Thus, airpower can be seen as an unobtrusive way of applying force, independent of third parties that frequently will not support the US action.

An important qualifier to this discussion is that despite the advantages of airpower to “boots on the ground” in this capacity, overflight permission is not always granted. During Operation El Dorado Canyon, both France and Spain refused US requests to over fly their territory, adding on literally thousands of miles to the mission of those aircrews coming from England. In this case, the net result was additional workload on the aircrews, which arguably detracted from their performance, although that contention is far from certain. Libya was on the Mediterranean, and that meant it was vulnerable to attack from international territory. Future operations could involve an attack on a landlocked country, and a refusal of overflight, from countries bordering the belligerent, could leave the US with two bad options: attack the belligerent country anyway and ignore the countries refusing overflight (thereby risking both

international relations and safety of the aircrews), or accept the overflight refusal and choose NOT to attack. Without question, over flight is a contentious issue; in certain circumstances, it could cancel out the advantages that airpower provides over ground forces, since strikes and raids may not get broad international support.

As identified with these four conclusions, the role of force does have an extremely important role in fulfilling national political objectives. However, an important qualifier is that force is not typically a long-term solution. It can be used to dissuade an adversary from a particular course of action, and it can be used to placate domestic pressures. Conversely, it can rarely be counted on to influence or gain the support of a third party. With each one of these conclusions, the role of time, dissuasion, domestic pressure, and third party considerations, airpower can deliver: the special capabilities of speed, lethality, and precision make this possible. It was these capabilities which made Operation El Dorado Canyon a success.

Operation El Dorado Canyon is important as a case study for three reasons. First, it was a *responsive* action. Much can be learned from studying the circumstances in which a country responds, through Strategic Air Attack, to a perceived injury. Second, El Dorado Canyon illustrates that a strike or raid in MOOTW must be done for an extremely significant reason; this bears in mind the “heavy-handedness” perception of these types of operations. In this case, the reason was counter terrorism, which the American public considered both visible and threatening. Third, the concept of proportionality for *responsive* Strategic Air Attack is of tantamount importance. The Reagan Administration went to great lengths to not strike Libya too hard; targets were selected, as much as possible, because of their link to terrorism. For these three reasons, Operation El Dorado Canyon offers an excellent case study.

Operation El Dorado Canyon

Before discussing the Strategic Air Attack aspects of this operation, it is appropriate to discuss the reasons why the Reagan Administration chose to respond. The history of US-Libyan relations is a long and complicated one, so it is appropriate to start here with the events of 1985, which changed the political atmosphere from one of tension to one ripe for open combat. It was during this year that the US challenged Muammar Qaddafi's claims that the Gulf of Sidra was Libyan sovereign territory by crossing his "Line of Death," south of Latitude 32 degrees 30 minutes, during Sixth Fleet's quarterly exercise.³³ Several terrorist acts precipitated this move.

First, the *Achille Lauro* terrorist incident occurred. The *Achille Lauro* was an Italian cruise ship hijacked off the Mediterranean coast of Egypt on October 7, 1985, by members of the Palestinian Liberation Front (PLF), a small guerrilla faction of the Palestinian Liberation Organization, demanding the release of Palestinian prisoners in Israel. Two days later, Egyptian President Hosni Mubarak and PLF leader Mohammed Abbas induced the hijackers to surrender. Although more than 400 passengers and crew of the *Achille Lauro* were released, the hijackers had shot to death and thrown overboard an invalid Jewish American passenger, 69-year-old Leon Klinghoffer.³⁴ Mubarak permitted Abbas and the hijackers to fly to PLF headquarters in Tunisia aboard an Egyptian commercial airliner; however, President Ronald Reagan sent U.S. Navy jet fighters to intercept the flight and, with the consent of Italy's Premier

³³ William J. Crowe, *The Line of Fire* (New York, NY: Simon & Schuster, 1993), 129.

³⁴ Encarta Encyclopedia, Online Deluxe Edition, under "Achille Lauro" article, accessed on *Microsoft Network*, 1 Jan 01.

Bettino Craxi, to force the aircraft to land at the joint U.S.-Italian air base at Sigonella, Sicily.³⁵

Libya was not directly involved, or even indirectly responsible, but the mastermind of this event had escaped and the Reagan Administration was taking a combative mood towards the perpetrators of any terrorist act.³⁶

Secondly, terrorists from the Abu Nidal group raided the Rome and Vienna airports in December 1985, killing and injuring 150 people, with four Americans among the dead.³⁷ Even though Libya's role was not clear, Qaddafi described the terrorist actions as "a noble act," outraging the American public.³⁸ There was no question that Qaddafi had links with the Abu Nidal group, and to the Reagan administration the dictator "logically bore a clear responsibility when the Abu Nidal group engaged in its normal and indeed only type of activity."³⁹ There was still no firm evidence of a direct link to Qaddafi, so no one in Washington considered retaliation politically feasible at this time. Yet, preparations were being made to strike at Libya at the next provocation.

That provocation occurred on 5 April 1986, when a terrorist bomb blew up the La Belle Disco in West Berlin, a popular club to American soldiers; one US servicemen was killed,

³⁵ Ibid.

³⁶ Crowe, 129.

³⁷ Ibid, 129.

³⁸ Ibid, 129.

³⁹ Brian L. Davis, *Qaddafi, Terrorism, and the Origins of the U.S. Attack on Libya* (New York, NY: Praeger Publishers, 1990), 80.

along with a Turkish woman, and 230 more people were injured, including fifty Americans.⁴⁰

Initial US intelligence pointed to the Libyans: then Secretary of State George Shultz later said,

“We were ‘reading their mail’: we had intercepted a Libyan communication from East Berlin saying that their operation had been carried out successfully ‘without leaving any clues.’”⁴¹

Both the British and West Germans backed this up. The British Minister of State for Foreign

and Commonwealth Affairs declared the evidence of Libyan involvement “incontrovertible”;

West German Chancellor Helmut Kohl asserted, “I have not the slightest doubt that the trail of blood from the Berlin disco bombing leads to Tripoli.”⁴² The Reagan Administration decided it

was time to retaliate.

Even though the military was assigned to the task, the guidance was vague. Reagan is said to have told his aides on April 7, “Try and make the world smaller for terrorists.”⁴³

Secretary of Defense Casper Weinberger added that the purpose of task was “. . . to teach

Qaddafi and others the lesson that the practice of terrorism would not be free of cost to

themselves; that indeed they would pay a terrible price for practicing it.”⁴⁴ The Chairman of the

Joint Chiefs of Staff Admiral William J. Crowe understood that basic idea but recognized that

⁴⁰ Crowe, 132.

⁴¹ George P. Shultz, *Turmoil and Triumph: My Years as Secretary of State* (New York, NY: Charles Scribner’s Sons, 1993), 683.

⁴² Davis, 118.

⁴³ Davis, 119.

⁴⁴ Casper W. Weinberger, *Fighting for Peace: Seven Critical Years in the Pentagon* (New York, NY: Warner Books, Inc., 1990), 189.

opinions in each interested government agency differed on just how to do this: “Did we, for example, want to scare Qaddafi, or kill him, or destroy part of his war machine, or stop his oil production?”⁴⁵

Fundamentally, choosing appropriate targets for any combat operation is a challenge; this selection is even more daunting for a retaliatory raid. Specific guidance is critically important. As Admiral Crowe discovered, however, administration officials simply did not know exactly what they wanted at the early stages of developing a target list for this operation.⁴⁶ Effective selection of targets is not a shopping expedition; rather, it is an informed **strategy** of selecting the right installation, unit or activity (the target) in order to accomplish objectives which are clear, concise, and achievable.

Some in the administration argued that for political reasons the strike had to clearly announce itself as a response to the disco bombing, directly attacking the people responsible for the attack. Others argued that attacking terrorist targets in general would suffice. Admiral Crowe’s own perspective, and that of the JCS, takes on an perspective embodying the very essence of Strategic Attack:

I thought that we were too concerned with choosing an allegedly “appropriate” target. If we were going to attack Libya, to commit an act of war, I wanted to focus on Qaddafi’s military capability, his tank parks, air bases, missile and radar sites. I wanted to destroy his capacity to harm us in the event we had to come back, or if we found ourselves engaged more deeply than we expected. Not a single bomb, I maintained, should be dropped solely to make a public

⁴⁵ Crowe, 132.

⁴⁶ Admiral Crowe’s experience is not unique in this way. Virtually every Chairman of the JCS has been frustrated, early in a crisis, by a lack of guidance when military options, to include air attack, have been considered.

relations impression. I opposed terrorist targets where there were no terrorists. **The point, in my judgment, was not to justify our attack according to some abstract doctrine of fairness but to punish Qaddafi, to hit where it hurt and where it would do us the most good** [emphasis added]. To me that meant focusing on military targets, particularly those that might cause us future casualties.⁴⁷

Not everybody agreed, however, and eventually the JCS perspective was only marginally accepted, much to Crowe's amazement.⁴⁸ Shultz, for example, "... argued against hitting Qaddafi's residence. We wouldn't get him, and I thought, it would be seen as an attempt by us to kill him that failed."⁴⁹ The President's own line of reasoning was clear: the attack must be focused on targets directly connected to terrorism.⁵⁰

There were also limitations on the airstrike. Because the Administration wanted to avoid civilian casualties, a number of the best targets, military and intelligence targets in the center of Tripoli, were sacrificed.⁵¹ No other option other an air strike was seriously considered, and that meant collateral damage considerations would encumber the affects of airpower. President Reagan fully understood this limitation but would only be content with taking "...all possible precautions to avoid any casualties or danger to civilians."⁵² Another limitation was that the air strike would be a single pass, to avoid the chance of Qaddafi holding

⁴⁷ Crowe, 133.

⁴⁸ Ibid, 134.

⁴⁹ Shultz, 683.

⁵⁰ Weinberger, 192.

⁵¹ Crowe, 134.

⁵² Weinberger, 190.

US servicemen as bargaining chips. Additionally, the thought of hitting key economic installations, such as pipelines or oil terminals, required persistent attacks and were ruled out.⁵³ Shultz further reasoned that attacking these targets would be a “disproportionate” option.⁵⁴ Given all these restrictions, Crowe was not confident in the US ability to hurt Qaddafi meaningfully, and felt the raid would be a political, not a military, operation.⁵⁵

In the end, the Administration approved five targets:

- (1) Bab al-Aziziyya complex in Tripoli, site for terrorist training and “nerve center” of the regime;
- (2) Murrat Sidi Bilal, a terrorist complex used in training SEAL-type commando operations;
- (3) Jamahiriyyah military barracks, described as an alternate terrorist command post and training facility in Benghazi;
- (4) Tripoli Airfield, home to Soviet-made IL-76 transport jets;
- (5) Benina Airfield, where MiG-23 fighters were based as well as an SA-5 surface-to-air site.

In total, over 100 aircraft were used in the raid on 15 April 1986, with the bomb-dropping aircraft including eighteen F-111s from Lakenheath Air Base in England and twelve

⁵³ Crowe, 135.

⁵⁴ Shultz, 684.

⁵⁵ Crowe, 135.

A-6s from carriers in the Mediterranean.⁵⁶ Damage in general was light, but a summary conveys some destruction of elements of the Qaddafi regime:

(1) Bab al-Aziziyya complex - command and control building severely damaged;⁵⁷

(2) Murrat Sidi Bilal - direct hits to the complex, resulting in damage estimated at \$10 million to \$15 million;⁵⁸

(3) Jamahiriya military barracks - heavily damaged, and an adjacent warehouse was also hit;⁵⁹

(4) Tripoli Airfield - two IL-76s destroyed, severe damage to three others, and major damage to several support buildings;⁶⁰

(5) Benina Airfield - three MiG-23 destroyed along with another eleven damaged, two Mi-8 helicopters destroyed, as well as an F-27 transport plane; the airfield was at least partially cratered, the SA-5 site was destroyed, and storage and support buildings were damaged.⁶¹

The administration, while disappointed that destruction was lighter than hoped, was

⁵⁶ Davis, 136-138.

⁵⁷ Crowe, 143.

⁵⁸ Davis, 137.

⁵⁹ Ibid, 138.

⁶⁰ Ibid, 137.

⁶¹ Ibid, 138.

elated with the effect. Weinberger stated that the US “. . . objective here was to end Qaddafi’s belief that he could use terrorism without cost. That was accomplished, thanks to some very able and brave people who undertook the action for us all.”⁶² Crowe summed up the results in this way:

From our standpoint the attack was eminently successful. I had not expected it; I thought it likely we would be compelled to inflict more destruction. But it turned out that we hadn’t needed it, that the modest raid was sufficient. It had a major personal impact on Qaddafi and it achieved what we wanted—to make him reconsider his terrorism policy and to impress him personally with Washington’s determination not to be intimidated. Beyond that, it demonstrated our capabilities and the fact that we had an open option to do the same, or worse, again. In retrospect, the return on the investment was extremely high—much higher than I had personally anticipated.⁶³

Beyond the administration’s own feelings that the raid was a success, it was very popular with the American public: polls showed 77 percent approval and as low as 14 percent disapproval.⁶⁴ Reagan’s approval ratings reached a peak for his presidency, soaring as high as 70 percent.⁶⁵ It was also popular on Capital Hill, where with only a handful of dissenters, it received staunch support.

In great contrast to American domestic reaction was the overseas reaction, where it received intense international criticism, the harshest in perhaps twenty years.⁶⁶ A huge number

⁶² Weinberger, 197.

⁶³ Crowe, 145.

⁶⁴ Davis, 145.

⁶⁵ Ibid, 145.

⁶⁶ Ibid, 145.

of governments, to include even traditional allies such as Japan and some countries in Western Europe, criticized Washington's decision, with only a handful openly supporting it. There were demonstrations around the world in protest to the attack. Perhaps most troublesome, but hardly unexpected, was the Soviet reaction, which called the attack a "bloody crime" and termed it "belligerent chauvinism, . . . an aggressive bandit action" of the sort that "cannot but affect relations between the Soviet Union and the United States."⁶⁷

In assessing Operation El Dorado Canyon, it is clear that it contained both positive and negative affects. On the positive side, the desired effect was achieved: Qaddafi seemed to withdraw support from the terrorist game, at least overtly. Further, the American public felt satisfied by the effort and any inclination towards more aggressive action was prevented by the air strike.

On the negative side, the US was heavily criticized by much of the world, despite the fact that many nations were sympathetic to the US actions, but they had little to lose by not saying so publicly, and perhaps much more to lose by endorsing it.⁶⁸ In light of the idea espoused earlier that the effect on third parties will rarely be positive, the Reagan administration was wise to not measure their success by international reaction. Still, the administration was at least partially vindicated in May 1986 at the G-7 summit in Tokyo: a joint communique stated that "It [terrorism] spreads only by the use of contemptible means, ignoring the values of human

⁶⁷ Ibid, 146.

⁶⁸ Davis, 146.

life, freedom and dignity. **It must be fought relentlessly and without compromise.**⁶⁹

[emphasis added]

Fully describing the consequences of Operation El Dorado Canyon would be incomplete without mentioning Pan American Flight 103. On the Evening of 21 December 1988, Pam Am 103 took off from London's Heathrow Airport and exploded over Lockerbie, Scotland, killing 259 people on the plane and 11 people on the ground. The two chief suspects of the attack, Al-Amin Khalifa Fahima and Abdel Basset Al-Megrahi, both Libyan, were recently tried in a Netherlands court which concluded on 31 Jan 2001; Al-Megrahi was convicted but he has appealed. For seven years, Qaddafi refused to hand these men over to Scottish authorities, leading to speculation Qaddafi himself had ordered the bombing. As a result, the United Nations has imposed sanctions on Libya since 1992. President George W. Bush said the US still holds Libya responsible for the attack and that both the US and Great Britain have said any lifting of sanctions would not be a quick process as several demands still had to be fulfilled.⁷⁰ It may never be known if this was Qaddafi's attempt to "even the score" with the Operation El Dorado Canyon; still, it casts a shadow over the long-term effectiveness of the attack.

Perhaps most intriguing about the operation was that it could have been even more *Strategic*. There is no doubt that this was a Strategic Air Attack as defined earlier, since the US struck "... against an enemy's center(s) of gravity", the terrorist facilities and airfields, "...

⁶⁹ Shultz, 688.

⁷⁰ CNN website, Article: "Lockerbie families deny Gadhafi proof", 1 Feb 2001, accessed 28 Feb 2001.

.in order to effect a level of destruction” . . .where Qaddafi no longer had the will to “. . .carry out aggressive activity.”⁷¹ Regardless of the arguments made by Admiral Crowe, in the end, the objective was accomplished, as he readily admitted.

Operation El Dorado Canyon was therefore a successful *response* to terrorism. As the beginning of this paper indicates, just as onerous as terrorism is the WMD challenge, which could in fact be linked with terrorism. With WMD, it may not be enough to *respond* to this challenge, since waiting to accept the first blow may cost thousands of lives, as our Times Square example indicates. The central question of this paper involves Strategic Air Attack with both *reactive* and *preemptive* aspects; Operation Babylon is a case study on *preemptive* Strategic Air Attack.

Preemptive raids or strikes play an important role in any nation’s defense strategy. When a viable threat is discerned, few countries would totally forfeit the right to impair or eliminate it, particularly WMD threats. Deterrence might remain the first line of defense against WMD in most regions, but in an unstable region such as the Middle East, traditional approaches are inherently uncertain, hence, the need for preemptive action. Israel decided to do exactly this in Operation Babylon, and in hindsight there is little doubt Iraq’s WMD program was an enormous threat to the entire region.

Operation Babylon is therefore an important case study because it illustrates two significant points. First, *preemptive* Strategic Air Attack has multiple hazards associated with it. It may not be seen in a positive light for many, many years. Further, a second chance is

⁷¹ AFDD 1, 51.

hardly ever an option due to the countermeasures a country would most likely take upon being attacked by air: improved national air defenses, along with stronger active and passive point defenses in the target area. Politically, a reattack would be an especially hard sell, given the “victimized” state would assert aggression by the attacker; this assertion has been a constant over the years following any preemptive action. Second, because of these limitations, *preemptive Strategic Air Attack* must be an unqualified success. It must be worth the risk, given all of these potential pitfalls. In Operation Babylon, Israel accepted this risk, and attacked a threat that it simply could not accept.

Operation Babylon

To say that Israel has enemies is an understatement. Yet through the years since its birth in 1947, Israel has eased tensions with many of Arab neighbors. The Camp David Accords of 1978, where Israel and Egypt signed a framework for peace, is testament to this contention. In 1981 however, Israel had no such treaty with Iraq. As Iraq moved forward with their nuclear program, Israel was faced with a security risk of enormous proportion. The Osirak reactor, located just outside Baghdad, was nearly operational. The world little noted that it was the Iranians who attacked it first on 30 September 1980.⁷² They did little damage to it, and it remained a risk to Israel. It was risk considered too high to accept, and Israel made a preemptive attack.

There were three fundamental reasons for the attack. First, perhaps no other nation state has been as resilient as Iraq in keeping the flame of passion against Israel’s existence.

⁷² Amos Perlmutter, Michael Handel, and Uri Bar-Joseph, *Two Minutes Over Baghdad* (London, England: Corgi Books, 1982), 14.

Lying only 350 miles away from Israel, it participated in the Arab League's invasion of Palestine in 1948 and in the 1967 war; in 1973, it sent troops to fight along with the Syrians and Jordanians on the Eastern front. However, unlike any other Arab state directly at war with Israel with Israel, the Iraqis “. . . consistently and stubbornly refused even to consider the conclusion of a cease fire or armistice agreement with Israel . . . Iraq is, therefore, both from the practical and legal point of view the only Arab state in a permanent state of war with Israel.”⁷³

Secondly, Israel had convincing evidence that the Iraqi nuclear program's purpose was to build nuclear bombs. Based on what we now know about the Saddam Hussein regime in Iraq, this may seem like a blinding flash of the obvious. However, military action in the post World War II era is not typically taken lightly. In the court of international opinion, where allies, particularly the US, are critical to Israel, military action requires a far higher standard of justification than in the past; this requires proof, and Israel had this in abundance. To begin with, the Osirak reactor in Iraq had the capability for the “. . . production of weapon-grade plutonium in substantial quantities.”⁷⁴ Further, for years the Iraqis had been trying, albeit unsuccessfully, to accumulate as much weapon-grade uranium from all over the world.⁷⁵ There is little question, therefore, that Iraq was building a nuclear weapons capability. On the question of intent, one needs to look no further than Saddam Hussein to get the answer.

This was the third and last reason for the preemptive strike, the “Saddam factor.”

⁷³ Ibid, 14.

⁷⁴ Ibid, 58.

⁷⁵ Perlmutter, 60.

Saddam was then, and is today, in intimidating presence, both in Iraq and in the region. His extensive anti-Zionist rhetoric, although hardly unique in the region, is well documented. His specific intentions with Iraq's nuclear program were made clear in this statement on 19 August 1980, as reported by the Iraqi State News Agency:

In connection with the Zionist entity's campaign against the Iraqi use of nuclear technology: the rich and glorious past of Iraq will only be appreciated when it spills its wrath on the Zionist entity and when such technology is harnessed to the cause of the Arab nations. Iraq will use it for the freeing of Palestine and for no other purpose.⁷⁶

Equipped with nuclear weapons, Saddam was very dangerous, and in 1980 this opinion was hardly restricted to Israel alone; even the Arab countries understood this. Although the Arab world's official reaction was sharply critical of the attack on the Osirak reactor, unofficially, some Arab officials expressed quiet relief. For example, Saudi Arabia's King Khaled confided, during a visit to the United Kingdom and other European countries, some satisfaction with the attack.⁷⁷ George Shultz expressed in his memoirs that after the air attack, “. . . I felt sure that Iraq would not abandon its efforts to build a nuclear weapons capability. Iraq's ambitions and activities were not of a kind to breed confidence in Saddam Hussein.”⁷⁸ Lastly, during the Gulf War, the allied coalition leaders agreed unanimously to attack Saddam's WMD capability and did so with some success; this is perhaps the greatest testimony, years after the fact, to the assertion that Israel could simply not trust a nuclear armed Iraq.

⁷⁶ Ibid, 148.

⁷⁷ Ibid, 177.

⁷⁸ Shultz, 240.

Israel therefore attacked the Osirak reactor for these reasons: historical animosities with Iraq, its role in building a nuclear weapons capability, and mistrust of Saddam Hussein. The raid was controversial, particularly in Israel itself:

Opposition to the plan was not so much against the destruction of the reactor -- rather, they feared the political fall-out that could be expected, whether it succeeded or not, a possible crisis in Israeli-American relations; the weakening of Sadat's influence in the Arab world; the enhancing of dormant Arab dreams of unity; the Iraqi reaction which might well be to continue and once again accelerate its nuclear potential; and above all, the disastrous effects should the operation fail.⁷⁹

Additionally, many leaders from the opposition Labor Party, led by Shimon Peres, viewed the timing of the raid, which was just before the national presidential election, as a politically motivated stunt from incumbent Prime Minister, Menachem Begin.⁸⁰ Yet, despite these opposition concerns and claims, the raid was a phenomenal success and Begin won reelection.

So how did the Israelis do it? Fundamentally, they did it with rigorous planning and flawless execution. Eight F-16 fighters dropped a total of sixteen Mark 84 two thousand pound bombs on the reactor, totally destroying it and leveling several support buildings located nearby. The F-16's accuracy was astounding, considering they were dropping unguided, "dumb" bombs; all their bombs were direct hits within thirty feet from the center of the target.⁸¹ All these aircraft returned home safely, to include the eight F-15 fighter escort aircraft.

⁷⁹ Perlmutter, 167.

⁸⁰ Ibid, 168.

⁸¹ Perlmutter, 136.

Given this tactical result, what were strategic consequences? First and most importantly, Iraq's nuclear program was set back at least two to five years, though estimates vary widely beyond that because of the highly covert nature of the program. Secondly, the political aftermath entailed almost universal condemnation **immediately following the attack:** "Having succeeded in carrying out a professional raid over one of the most threatening projects to her existence, Israel failed in explaining why she had needed to do it . . . because of Begin's indiscretion and the failure of a counter-propaganda campaign, Israel was blamed as a pirate state which had flouted international law. She was outlawed by the IAEA [International Atomic Energy Agency] and condemned in the UN assembly."⁸² Years later, much of the world saw the raid in a much more positive light: "Israel had performed a great service to the whole world by destroying the reactor, which had been against the interests of every peace-loving country . . ."⁸³

Israeli Strategic Air Attack, executed with flawless precision, won this battle of wills. The details of Strategic Air Attack theory must now be examined.

The Theory Behind Strategic Attack

As stated in the introduction, discussion in this paper is limited to a raid and strike MOOTW focus. Whereas much has been written about Strategic Attack as applied to war, very little has been documented on its use in MOOTW. To overcome this challenge, this paper will first identify the key elements of Strategic Attack. Next, it addresses the National Elements

⁸² Ibid, 151.

⁸³ Ibid, 151.

of Value model. The author, in his over ten years of targeting experience, has yet to find a more thorough and comprehensive model for Strategic Attack than the NEV model. Drawing upon this model and the key elements of Strategic Attack, the discussion transitions into an analysis of Strategic Air Attack in MOOTW, focusing on the principles of objective, restraint, and legitimacy, as identified earlier.

To refresh, there are three key elements of Strategic Attack. First, it is military action which is carried out against **an enemy's center(s) of gravity or other vital target sets**. Secondly, there must be a sufficient **level of destruction and disintegration of the enemy's military capability**. Lastly, in the final analysis the effect must be that **the enemy no longer retains the ability or will to wage war or carry out aggressive activity**. These elements can be summed up in the following way: the target (center of gravity), the means (destruction or disintegration), and the effect (neutralization). The best way to address the target concept, in Strategic Attack, is through the National Elements of Value (NEV) model.

A School of Advanced Airpower Studies (SAAS) student, Major Jason Barlow developed this model, in 1994. Major Barlow submits that the “search for a single target which causes the collapse of an entire enemy country is often futile--and perhaps more fantasy than fact.”⁸⁴ His paper delineates an approach to strategic targeting that takes into account the interaction of all societal elements through seven categories of targets, called NEVs: leadership, industry, armed forces, population, transportation, communication,

⁸⁴ Jason B. Barlow, *Strategic Paralysis: An Airpower Theory for the Present* (Maxwell Air Force Base, AL: Air University Press, 1994), vii.

and alliances.⁸⁵ Barlow asserts that four aspects must be considered to properly select and evaluate NEVs: (1) they vary in importance from country to country; (2) they are self-compensating (when one of them is impaired or damaged, other NEVs will compensate in some way by producing more, picking up the slack, etc.); (3) the enemy's leaders must be rational in the sense that they can be influenced by the threat or destruction of valuable portions of their physical infrastructure; and (4) their proper identification requires a significant intelligence base.⁸⁶

Barlow makes some astute assertions here, which are appropriate not only in wartime but in a MOOTW raid and strike setting as well. Still, there is little doubt that certain scenarios would seriously test these assumptions. Fundamentally however, the process of selecting NEVs, and later individual targets for a raid or strike, must incorporate these assumptions in some way. With this in mind, we turn our attention to the NEVs.

The first area is leadership, a concept that has been thoroughly covered in many sources but worth exploring now to frame the Strategic Air Attack issue. We define leadership in the following way: the political and military decision-makers within government; this could be a president, a family, a dictator, a politburo or central committee, or a revolutionary junta.⁸⁷ Leadership is a key feature of every nation state.

Perhaps the best authority in this area is Colonel John Warden, a very distinguished airpower theorist; Warden wrote the book *The Air Campaign* and other papers which

⁸⁵ Barlow, vii.

⁸⁶ Ibid, viii.

⁸⁷ Ibid, 56.

developed and advocated prominent theories and ideas. He had a significant role in creating and shaping the air campaign ultimately used in Operation Desert Storm. Warden developed a model which categorized a nation's key components or targets and their interactions. This model is presented below. The most important target, the enemy's command element, is in the center. Moving out from the center, Warden labeled his rings essential production, transportation network, population and the enemy's fielded military forces. All efforts, to include those against an outer ring, are intended to affect the command ring, and Warden argues that if leadership is destroyed, the whole country collapses.⁸⁸

- KEY:
1. Command
 2. Essential Production
 3. Transportation Network
 4. Population
 5. Military Forces

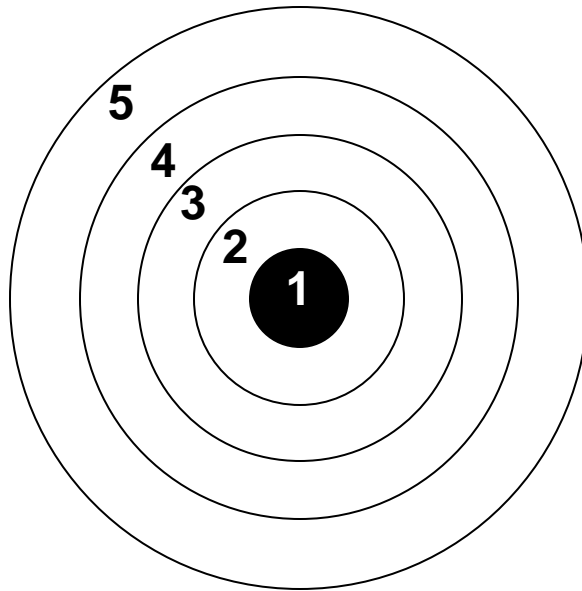


Figure 1: Warden's Strategic Rings Model⁸⁹

Clearly, there is a relationship between the outer rings and the command ring. If a

⁸⁸ Barlow, 45.

⁸⁹ Ibid, 45.

nation state's transportation network, for example, has been incapacitated, it will affect the leadership. The great unknown is how leadership will react or evaluate the "message" being sent, and no two countries' leadership will react the same. Warden's model is somewhat simplistic, therefore, and may overestimate the impact of an attack on the inner rings. Even more relevant for our discussion here is the effectiveness of a direct attack on leadership.

In Desert Storm, for example, few would argue that if Saddam Hussein, by all appearances Iraq's most important NEV, had been killed, the war might have ended. If however, President Bush had been killed during the war, US war efforts would not have ceased. The point here is that the leadership NEV cannot be arbitrarily or automatically assigned the most important target or center of gravity; that determination depends on the type of government, the process of succession to power, and how indispensable leadership is to the conduct of the war. Despite these shortcomings, Warden's basic premise rings true: in whatever form it takes, leadership has a significant impact on the "will and capability" of a nation state.

The second NEV is industry, which includes all of the country's manufacturing, agriculture, and technical enterprises as well as those parts necessary to support them, such as power production, water supply, and raw materials.⁹⁰ Virtually every nation contains vital industries, important to both the economic and military well being of that nation. Many modern first world countries have highly diverse industries, but this is not always the case in the developing world.

⁹⁰ Barlow, 58.

Some countries are highly reliant on very few industries; for example, Libya, Iraq, and Iran, are heavily reliant on the petroleum industry. In fact, 60% of the tax revenues Iran collects comes from the petroleum industry.⁹¹ This is not to say this industry is *concentrated*, located in a few facilities or areas. Rather, a nation's petroleum industry could be quite dispersed in multiple collection and storage areas, as well as have significant numbers of refining and pumping facilities. The fact remains, however, that a nation state, which has one significant industry, might find itself vulnerable if that industry is attacked with great force and determination.

Although no two countries share an equal dependence on the same industry, electrical power (regardless of how it is produced) is an element common to all industry and urban society; virtually no modern country can operate without it. Any military assessment of a potential opponent should incorporate an intelligence preparation of the battlespace (IPB) of the nation's power production industry, identifying the links and nodes, as well as the vulnerabilities. Attacking it successfully would severely hurt a nation in a very strategic way.

The third NEV is simply the military force a country has at its disposal and could include not only the army, navy, air force, and marines, but also strategic air defenses, coast guard, revolutionary brigades, terrorist units, and peoples armies.⁹² Although one may be tempted to put a nation's armed forces at the top of the target list, the armed forces are rarely the true or final objective, particularly in MOOTW.⁹³ As stated earlier, the objective is to compel a change

⁹¹ Encarta Encyclopedia, Online Deluxe Edition, under "Iran" article, accessed on *Microsoft Network*, accessed on 6 Jan 01.

⁹² Barlow, 59.

⁹³ Barlow, 59.

in behavior of the country's leadership. For example, if the leader of an industrial country sees his major industries progressively destroyed in a systematic campaign, he may modify his behavior even if his army is totally intact. This, arguably, was the situation the Serbian leader, Milosevic, faced in 1999 during Operation Allied Force. In any case, the armed forces of a country are often a center of gravity, and a robust IPB of an opponent's armed forces is an absolute.

After all, targeting an opponent's armed forces can produce benefits at several levels. For most countries, the psychological impact of destroying elements of their army (or perhaps their air force) might be sufficient to compel a change of behavior. As earlier described, it must have been very discouraging for Qaddafi to see some of his most important air force assets, the IL-76s and MiG-23s, destroyed on the ground. Further, the population of many countries do not wish to see their military, which may be a source of national pride, destroyed at will.

The population, which is in fact the fourth NEV, may be the most important source of strength in a country. However, the population is not only the hardest to impact, but also the least politically acceptable to attack. A population carries with it all of those ubiquitous qualities that are so hard to quantify, such as nationalism, morale, will of the people, ethnocentrism, the ability to endure hardship, esprit de corps, and religious conviction or fervor. Many past theorists, including Giulio Douhet and Sir Arthur "Bomber" Harris, believed that the population was really the ultimate target. Other theorists felt similarly, such as Carl von Clausewitz. The population was one of the three parts of his "paradoxical trinity", and he stated that the ". .

.passions that are to be kindled in war must already be inherent in the people . . .’⁹⁴

Unfortunately for some theorists, the attempt to influence the population by direct action, such as bombardment, rarely worked and even backfired in some cases. The British population, for example, hardened its resolve to defeat the Germans even as they were bombed during the Battle of Britain. Bombing a population also became unpalatable after World War II due to Law of Armed Conflict considerations. The concept of humanity simply outweighs military necessity in nearly every case. Further, the political reality is that **today**, the US would forfeit the moral high ground, as well as influence in the United Nations, if it directly attacked a population center, even if it was for retaliation of a terrorist strike in which US citizens died. For these reasons, it is extremely unlikely that the US would attack a population in a MOOTW scenario.

Attacking the will of a population is thus both difficult and risky, difficult because we have limited options to influence it and risky because any attempt to influence it could in fact have the opposite effect of increasing support for the country’s leadership. There is no question that affecting the population is a highly unpredictable task; nevertheless, it is a proven element of value.

The fifth NEV, transportation, includes ground, air, and sea transportation modes.⁹⁵ Modern nation states have a transportation networks which enables movement unencumbered by natural barriers such as rivers and mountains. Still, some or all of the components in a

⁹⁴ Carl von Clausewitz, *On War* (Princeton, NJ: Princeton University Press, 1984), 89.

⁹⁵ Barlow, 60.

country's transportation network may be highly vulnerable; this includes bridges, rail yards, airports, and docks. Additionally, transportation is related to all other NEVs. Without transportation, industry cannot move equipment and supplies, and leadership cannot plan, execute, or move critical units.⁹⁶

Communications, the sixth NEV, consists not so much of the message but rather the means by which the message is communicated; this includes radio stations, telephone wires, microwave antennas, satellites and their associated up-link and down-link stations, and coaxial/fiber optic cables.⁹⁷ Every leader must be able to communicate with both his population and his military forces. The need for timely communication is paramount, and most countries have invested significant time and resources to ensure that the leadership has the means to expedite its messages. Denying a foe the capability to communicate or at a minimum, the ability to do it with speed, can have a devastating impact on the leadership's ability to command and control.

It must be understood that severing communications may not only be impossible to do but also undesirable. Nearly every country has redundant communications. Additionally, nation states can become very resourceful in order to maintain contact. Even with a sustained attack against its communications during Operation Desert Storm, the Iraqi system was stressed but did not collapse because its command element compensated with personal and messenger visits

⁹⁶ Barlow, 60.

⁹⁷ Ibid, 60.

to the front.⁹⁸ Even if communications could be completely severed, this may be counterproductive, since the leadership may be incapable of communicating messages back to the US that it wishes to end the conflict. In the final analysis, attacking communications may be appropriate because of the difficulties it may spell for the leadership and military forces; yet, this must be balanced with the objectives of the operation and the requirement to maintain communications after it.

The last NEV is alliances, which comprises friends, allies, trading partners, and neighbors from which a country receives support.⁹⁹ Clausewitz identified alliances as a center of gravity; in wartime, he advocated “. . . an effective blow against his principal ally if that ally is more powerful than he.”¹⁰⁰ In general, alliances are reciprocal strategic relationships between countries. No modern country is totally self-sufficient politically. From such alliances, nations receive military support and equipment. This support may be vulnerable to Strategic Air Attack.

Another type of alliance support is just as important but is the one which is difficult to quantify: moral support.¹⁰¹ For example, during the Gulf War, Jordan and Iran's support of Iraq was invaluable to Saddam Hussein in legitimizing the war to his people and obtaining critical

⁹⁸ Ibid, 61.

⁹⁹ Barlow, 61.

¹⁰⁰ Clausewitz, 596.

¹⁰¹ Barlow, 61.

Arab support.¹⁰² It is hard to imagine how Strategic Air Attack can affect this type of support. Indeed, it may build support for the victim of bombing, no matter how detestable a regime. The important issues are whether these relationships are susceptible to interruption and what means should be chosen (and at what costs) to interrupt them. Likewise, the attacker's alliances may also complicate Strategic Air Attack. Some raids may inflame hostilities from allies, and the US may avoid these attacks in order to maintain strong alliances.

Describing these NEVs enables us to summarize. First, Strategic Air Attack must be carried out against several of them to achieve reinforcing affects: denying power, for example, affects the leadership, the country's communications, its industries, and virtually all the NEVs in one way or another. Second, the level of destruction must be sufficient to neutralize or at a minimum impair the opponent. Third, the effect must be that the enemy perceives a need to stop the aggressive activity; in essence, his behavior must be significantly altered. Applying this summation to the MOOTW principles identified earlier, **objective**, **restraint**, and **legitimacy**, we establish a direct link between Strategic Air Attack and strikes and raids in MOOTW.

Objective: This must be clearly defined, decisive, and attainable objective. Avoiding a wish list is imperative here. For example, let us assume that in the Times Square example brought up in the Introduction, a detailed investigation allowed the US to directly link the attack back to North Korea. Even if the US desired to destroy the North Korean nuclear weapons program (along with their chemical capability), which is an appropriate response and probably could be supported in the UN, this action would be doomed to failure. 26 F-117s and

¹⁰² Ibid, 61.

approximately 50 Tomahawk and Air Launched Cruise Missiles may only destroy as little as 25 percent of North Korea's manufacturing capability and seven of the 10 estimated existing weapons.¹⁰³ The objective must be attainable yet decisive enough to signal to an opponent that the US has the resolve to inflict a level of pain they cannot afford to accept.

Restraint: Military capability must be applied prudently. This means not only to limit an attack to what is possible but also to the minimum force required to obtain the objective. Strategic Air Attack could easily be seen as too harsh, and must only be used if a situation arises which the US has no other reasonable options.

Legitimacy: Political leaders must be able to obtain and then sustain afterwards some level of legitimacy from the world community. This may take the form of the UN, a regional alliance, or US coalition. Clearly, the US did not have the support of much of the world for Operation El Dorado Canyon, but there certainly was enough support for some level of legitimacy. Israel had even less legitimacy for Operation Babylon, largely however, because of its own political clumsiness. The bottom line is that in some cases the support may be thin; in these cases, the American public must be solidly behind the action, such as for Operation El Dorado Canyon.

Strategic Air Attack is not easily accomplished in a MOOTW scenario. The objective must be appropriate; the means must be properly restrained and the US must use the minimum force necessary to obtain the objective; lastly, Strategic Air Attack should be perceived by at least part of the world community as legitimate. Even with all these requirements, it still must

¹⁰³ Steven R. Prebeck, *Preventive Attack in the 1990s?* (Maxwell Air Force Base, AL: Air University Press, 1993), 21.

compel the opponent to modify his will to use aggressive force against the US. As difficult as it may seem, Strategic Air Attack can and has worked in the past in MOOTW strikes and raids.

Now and in the future, Strategic Air Attack can even be seen as an asymmetric capability. For example, if a nation state has committed a terrorist act or detonated a WMD against the US, an appropriate “reprisal in kind” target **may not** be immediately identified. As was seen by Operation El Dorado Canyon, a suitable terrorist target, which was desired for obvious political reasons, was hard to find. Admiral Crowe advocated that an attack against Qaddafi’s military forces was an equivalent reprisal: the level of hurt to Libya was roughly the same the US experienced. Likewise, in the case of a WMD use against the US, the political leadership of the US may be tempted to strike at the facilities which produced the weapon and the apparatus which organized the attack. This may also be impossible to identify. Yet, if an oil producing state was the culprit, it may be appropriate to destroy their vital industry. Inflicting the proportional, and appropriate, amount of pain is the goal of an asymmetric capability: Strategic Air Attack can be this tool.

Conclusion

We return now to the central question of this paper: can Strategic Air Attack be successful in MOOTW strikes and raids scenarios, such as it was in Operation El Dorado Canyon and Operation Babylon? Further, under what circumstances and conditions can the US successfully conduct Strategic Air Attack to fulfill national objectives in MOOTW scenarios?

The answer to the first question is an unequivocal “Yes.” Looking at reasons for the success of Operation El Dorado Canyon yields conclusions on how it can be duplicated in other

responsive MOOTW scenarios. First, it was both appropriate and restrained, tough enough to signal US resolve yet not crippling enough to escalate the situation; it was **proportional**.

Second, even if the damage seemed somewhat light, it was damage in at least two NEVs: the leadership (to buildings in Qaddafi's own compound) and military forces (the IL-76s and MiG-23s). One may even argue that the damage done to the terrorist facilities was a blow to both military forces as well as industry, since the attacks inflicted economic damage to Libya's "terrorist industry." Third and last, the attack demonstrated that the US capability to inflict damage on this nation state was a virtual certainty. In other words, there were enough "bombs on target" to influence Qaddafi's future calculations. In Strategic Air Attack, this is an absolute must.

Likewise, Operation Babylon was a great success. Three conclusions can be drawn by analyzing this particular *preemptive* Strategic Air Attack. First, the attack was ultimately successful because it did not so much as attack a behavior, but actually attacked a **capability**. If Israel had attacked Iraq's oil industry, it would not have set Iraq's nuclear program back at all. Second, and closely related to the first conclusion, the attack was a great success. If it had not destroyed the Osirak reactor, besides receiving international condemnation, Israel would have to deal with stronger Iraqi defenses in a reattack, as discussed earlier. Even more dangerous, Iraq would in all likelihood have gained a nuclear weapon, and be more determined than ever to use it against Israel. Third, the benefits of Israel's action did not become apparent until many years later. The country executing a *preemptive* attack must be prepared for years of criticism; in fact, it must be prepared to accept that the international community may never see the attack in a positive light. In this capacity, it is perhaps fortunate for Israel that Iraq

invaded Kuwait in 1990.

Concerning the second question, the circumstances and conditions in which the US can successfully conduct Strategic Air Attack, it is clear just how limited Strategic Air Attack is as a response to many situations. There is no question that Strategic Air Attack should be sparingly used. It is NOT an appropriate response to most MOOTW scenarios, including those where peacekeeping, counterinsurgency, or civil assistance operations are required, such as civil wars, famine, and natural disasters.

It is also not appropriate where it cannot be successful, as illustrated in Operation Desert Fox. This operation, conducted between 16-20 Dec 1998, was a result of Iraq's " . . . defiance of the Security Council, then its promise to void its decisions of October and resume full cooperation with UNSCOM [the United Nations Special Commission that was supposed to regularly inspect Iraq for weapons violations], followed by its breaking of that promise. A classic case of Iraq's cheat/retreat/cheat tactic."¹⁰⁴ Certainly the cause of preventing Saddam from obtaining weapons of mass destruction is compelling (Operation Babylon is a testament to this). True to form however, Operation Desert Fox was highly unpopular throughout the world, with only the US and Great Britain participating in it. Most significantly, it was **a qualified failure**, which is a disaster for *preemptive* Strategic Air Attack:

Reports from the field indicated that Desert Fox did damage Iraq's weapons-of-mass-destruction capability, but perhaps because of its brevity (four days), it was not decisive. Paradoxically, it led to an extended absence from Iraq of any arms-control or disarmament work and then to the development of a new approach to that work, the effectiveness of which is questionable . . . In these

¹⁰⁴ Butler, Richard, *The Greatest Threat: Iraq, Weapons of Mass Destruction, and the Crisis of Global Security* (New York, NY: Public Affairs, 2000), 213.

circumstances, it is hard not to see Desert Fox as a failure, particularly because of its brevity.¹⁰⁵

Thus, Desert Fox did not complete the task of destroying Iraq's WMD capability. This capability was both dispersed and hardened, and there were numerous intelligence gaps in identifying and characterizing Iraqi WMD facilities. Strategic Air Attack was not the correct instrument for this specific task because of these hurdles; in fact, the use of Strategic Air Attack actually prevented other types of MOOTW missions, such as arms control (albeit from the UN), from following after Desert Fox. Whether these missions would have succeeded is debatable; it is certain, however, that Strategic Air Attack could not have succeeded in these circumstances.

Strategic Air Attack can succeed in many other circumstances, and is appropriate when a nation state has committed a terrorist and/or WMD attack on the US or its vital interests, or is threatening in a very visible manner to do so. Strategic Air Attack's asymmetric capability must be employed to the fullest; strongholds which are resistant to attack (such as the Desert Fox example) should be avoided at all costs. The idea is to put US strengths against enemy weaknesses; this, indeed, is the **essence** of Strategic Air Attack.

Planners must incorporate this idea into any Strategic Air Attack strike or raid. Unfortunately, many planners are not focused in this way. Whereas the US has started to prepare itself *defensively* for a WMD incident, it is questionable how well it is prepared *offensively*. As Joint Forces Command (JFCOM) has taken the lead role to respond

¹⁰⁵ Ibid, 213.

defensively, so too must a lead organization take an aggressive role for offensive planning. This directly leads to four recommendations.

Recommendations

1. The National Command Authorities should designate the US Strategic Command (STRATCOM) as the lead agency for planning offensive Strategic Air Attacks. STRATCOM has robust capabilities, to include intelligence capabilities, and this new mission will not stretch much beyond its expertise and current organic assets. Perhaps STRATCOM would have to stand up an office with a function similar to its organizations which plan the Single Integrated Operational Plan (SIOP). This planning would be updated every year, based upon Joint Chiefs of Staff guidance, just like the SIOP. Several aspects of STRATCOM's current mission statement is directly conducive to this responsibility:

To deter military attack on the United States and its allies, and should deterrence fail, employ forces so as to achieve national objectives.

Our responsibilities include:

- Providing intelligence on countries and other entities possessing or seeking weapons of mass destruction
- Providing support to other combatant command commanders
- Developing a Single Integrated Operational Plan that fully satisfies national guidance
- Monitoring the readiness of SIOP committed forces
- Commanding, controlling and employing assigned forces¹⁰⁶

The bottom line is that STRATCOM is at least minimally capable of planning Strategic Air Attack operations now; they could fairly easily expand to handle this requirement.

¹⁰⁶ USSTRATCOM's website, URL: www.stratcom.af.mil, accessed on 9 Jan 01.

2. STRATCOM, or another designated agency, should now be working in conjunction with JFCOM, on a rigorous NEV IPB for the countries which pose both a terrorist and WMD threat to the US. As can be seen from above, STRATCOM is already doing the WMD part. The reason why it is so important to establish a relationship between STRATCOM and JFCOM is for the sharing of WMD intelligence and the establishment of a baseline to coordinate offensive and defensive WMD planning.

3. If Strategic Air Attack is being planned, its intended effect should be largely on the target nation. This is clearly a difficult task, as others will respond in one way or another to the attack; the US could be easily drawn into assessing and trying to change or persuade the attitudes of these third parties. Some of this is acceptable and necessary, but too much effort on third parties may require considerable political capital with little to show for in return. The focus here is obviously not on the warfighter, but rather on the national political leadership which must strike the balance. In the final analysis, third parties are hard to affect, but they must be considered.

4. Strategic Air Attack must be applied across the NEV spectrum, particularly when *in response* to an attack by the belligerent. In this case, Strategic Air Attack should include as many NEVs as necessary to inflict the appropriate damage required by US national objectives. As contended earlier, it is a US asymmetric advantage: we may not know the location or units which are planning the WMD attack, but with proper IPB, we certainly know *how* to hurt the responsible nation state, and we have the *capability* to make it happen. This is what makes Strategic Air Attack a vitally important strike and raid MOOTW tool to US National decisionmakers. It is absolutely essential that the US maintain this tool, refine it, properly plan

for it, and be ready to execute it. The security of the US in an uncertain world demands nothing less.

BIBLIOGRAPHY

- Barlow, Jason B., MAJ, USAF. *Strategic Paralysis: An Airpower Theory for the Present*. School of Advanced Airpower Studies Thesis. Maxwell Air Force Base, AL: Air University Press, February 1994.
- Blechman, Barry M., Stephen S. Kaplan, and others. *Force Without War: U.S. Armed Forces as a Political Instrument*. Washington, D.C.: The Brookings Institution, 1978.
- Butler, Richard. *The Greatest Threat: Iraq, Weapons of Mass Destruction, and the Crisis of Global Security*. New York, NY: PublicAffairs, 2000.
- Cable News Network Website. Under "Lockerbie families deny Gadhafi proof" dated 1 Feb 2001. Accessed on 28 Feb 2001.
- Clausewitz, Carl Von. *On War*. Princeton, NJ: Princeton University Press, 1976.
- Crowe, William J., Jr., ADM (Ret), USN with David Chanoff. *Line of Fire: Washington to the Gulf, Politics & Battles of the New Military*. New York, NY: Simon & Schuster, 1993.
- Davis, Brian L. *Qaddafi, Terrorism, and the Origins of the U.S. Attack on Libya*. New York, NY: Praeger Publishers, 1990.
- DFI International. *A 21st Century Air Force: US Global Engagement and the Use*

of Air and Space Power. Washington, DC, July 1997.

Encarta Encyclopedia. Online Deluxe Edition. Under "Achille Lauro" and "Iran" Articles, Accessed on *Microsoft Network*, "Microsoft Companion--Encyclopedia" on several occasions.

Grant, Rebecca. "The Kosovo Campaign: Aerospace Power Made it Work." *An Air Force Association Special Report*. Arlington, VA: The Air Force Association, 1999.

Headquarters Air Force Doctrine Center. Air Force Doctrine Document 1. *Air Force Basic Doctrine*. Maxwell Air Force Base, AL, 1997.

Hyde, Charles K., MAJ, USAF. "Casualty Aversion: Implications for Policymakers and Senior Military Officers." *Chairman of the Joint Chiefs of Staff Strategy Essay Competition: Essays 2000, 1-16*. Washington, DC: National Defense University, 2000.

Joint Chiefs of Staff. Joint Pub 1-02. *Department of Defense Dictionary of Military and Associated Terms*. Washington, DC: GPO, 23 March 1994.

Joint Chiefs of Staff. Joint Pub 3-0. *Doctrine for Joint Operations*. Washington, DC: GPO, 1 February 1995.

Joint Chiefs of Staff. Joint Pub 3-07. *Joint Doctrine for Military Operations Other than War*. Washington, DC: GPO, 16 June 1995.

Joint Chiefs of Staff. *National Military Strategy of the United States of America*, n.p., 1997.

Joint Warfighting Center. *Concept for Future Joint Operations: Expanding Joint Vision 2010*. Fort Monroe, VA: GPO, May 1997.

Lambeth, Benjamin S. "Air Power, Space Power and Geography." Reprinted from *The Journal of Strategic Studies*, RP-842: 63-82. Santa Monica, CA: The Rand Corporation, 1999.

Meilinger, Phillip S. "Air Strategy: Targeting for Effect." *Aerospace Power Journal*, Volume XIII, No.4, Winter 1999: 48-61. Maxwell Air Force Base, AL: College of Aerospace Doctrine Research and Education.

Meilinger, Phillip S., COL, USAF. *10 Propositions Regarding Air Power*. Air Force History and Museums Program, 1995.

Perlmutter, Amos, Michael Handel, and Uri Bar-Joseph. *Two Minutes Over Baghdad*. London, England: Corgi Books, 1982.

Pimlott, John. *Strategic Bombing*. London, England: Bison Books Ltd, 1990.

Prebeck, Steven R., MAJ, USAF. *Preventive Attack in the 1990s?* School of

Advanced Airpower Studies Thesis. Maxwell Air Force Base, AL: Air University Press, May 1993.

Schwarkopf, Norman H., GEN (Ret), USA with Peter Petre. *It Doesn't Take a Hero*. New York, NY: Bantam Books, 1992.

Shultz, George P. *Turmoil and Triumph: My Years as Secretary of State*. New York, NY: Macmillan Publishing Company, 1993.

United States Strategic Command. "Command Mission Statement." Accessed website URL: www.stratcom.af.mil on 9 Jan 01.

US Air Force: Airpower Directory. World Airpower Journal. Ed. David Donald. London, England: Aerospace Publishing Ltd, 1992.

Warner, Christopher G. *Implementing Joint Vision 2010: A Revolution in Military Affairs for Strategic Air Campaigns*. Maxwell Air Force Base, AL: Air University Press, April 1999.

Weinberger, Casper W. *Fighting for Peace: Seven Critical Years in the Pentagon*. New York, NY: Warner Books, Inc. , 1990.

Zelikow, Philip D. "Force Without War, 1975-82." *The Journal of Strategic Studies*, Volume 7 (March 1984): 29-54. Santa Monica, CA: The Rand Corporation.